CHAPTER 11. LIFE-CYCLE COST SUB-GROUP ANALYSIS

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11.1 INTRODUCTION

The life-cycle cost (LCC) sub-group analysis evaluates impacts on any identifiable groups or customers who may be disproportionately affected by any national energy-efficiency standard level. This will be accomplished, in part, by analyzing the LCC and payback periods for those customers that fall into any identifiable groups. The Department will conduct this analysis during the Notice of Proposed Rulemaking (NOPR) stage of this rulemaking.

In the NOPR stage, the Department plans to evaluate variations in regional energy prices and variations in energy use that might affect the net present value (NPV) of a standard to customer sub-populations. To the extent possible, the Department will obtain estimates of the variability of each input parameter and will consider this variability in its calculation of customer impacts. Variations in energy use for a particular equipment type depend on factors such as climate and building type. The Department plans to perform sensitivity analyses to consider how differences in energy use will affect sub-groups of customers.

The Department will determine the impact on customer sub-groups using the LCC spreadsheet model. The spreadsheet model used for the LCC analysis can be used with different data inputs. The standard LCC analysis (described in Chapter 8) includes residential buildings that use furnaces and boilers. The LCC for any sub-group of national population, can be analyzed using the LCC spreadsheet model by sampling only that sub-group. (Chapter 8 explains in detail the inputs to the spreadsheet used in determining life-cycle cost and payback periods.)

11.2 PURCHASE PRICE INCREASES

The Department will be especially sensitive to increases in the purchase price of equipment, to avoid negative impacts on identifiable population groups, such as low income consumers (i.e., those with low annual income), that may not be able to afford significant increases in equipment price. For such customers that are sensitive to price increases, increases in first costs of a product can preclude the purchase of a new model of that product. As a result, some customers may retain products past their useful life. These older products are generally less efficient to begin with, and their efficiency may deteriorate further if they are retained beyond their useful life. Increases in first cost also can preclude the purchase and use of a product altogether, resulting in a potentially large loss of utility to the customer.